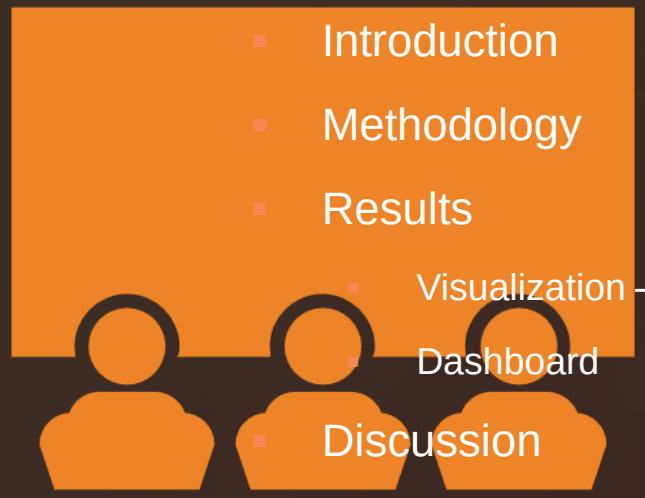
IBM_Data_Analyst_Capstone_Presentation

Jose Romero

9/24/2022

IBM Developer
SKILLS NETWORK

OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

IBM Developer
SKILLS NETWORK

EXECUTIVE SUMMARY

- Current Technology Usage Trend
  - Language
  - Database
  - Platform
  - Web frame
- Future Technology Trend
  - Language
  - Database
  - Platform
  - Web frame
- Demographics Survey
- Country & Gender Difference

IBM Developer
SKILLS NETWORK

INTRODUCTION

- Investigate technology trend in software and web development among developers around the world
- Purpose of this Analysis
  - Identify the top programming languages, database, platform and web frame skills in demand
  - Identify skill requirements for future
  - Identify human resource gap in the industry
- Audience for this Presentation
  - Programmers
  - IT industry leaders
  - Computer science students

IBM Developer
SKILLS NETWORK

METHODOLOGY

- Data Collection (Sources)
  - Stack overflow developer 2019 survey
  - GitHub job postings
  - Programming languages annual salary
- Data Wrangling
- Data Exploration
- Data Cleaning
- Data Visualization
  - Python matplotlib & turtle
  - IBM Cognos
- Presentation

IBM Developer
SKILLS NETWORK

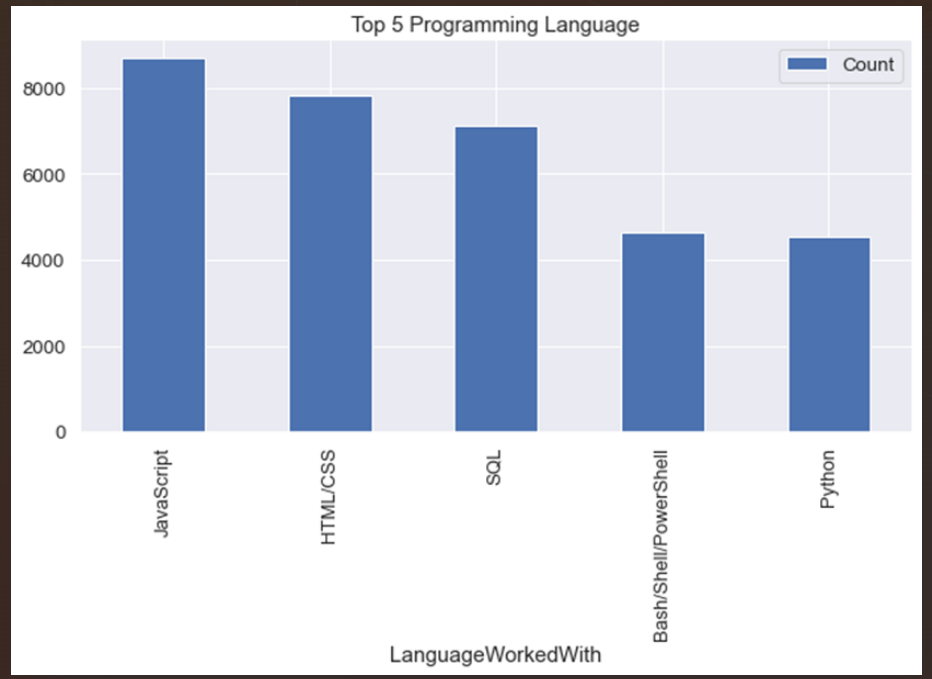
RESULTS

	Respondent	LanguageWorkedWith	LanguageDesireNextYear	DatabaseWorkedWith	DatabaseDesireNextYear	PlatformWorkedWith
0	4	C	C	MySQL	MySQL	Linux
1	4	C++	C#	SQLite	SQLite	Windows
2	4	C#	JavaScript	NaN	NaN	NaN
3	4	Python	SQL	NaN	NaN	NaN
4	4	SQL	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
74584	25142	Go	Python	NaN	NaN	NaN
74585	25142	HTML/CSS	R	NaN	NaN	NaN
74586	25142	PHP	NaN	NaN	NaN	NaN
74587	25142	Python	NaN	NaN	NaN	NaN
74588	25142	R	NaN	NaN	NaN	NaN

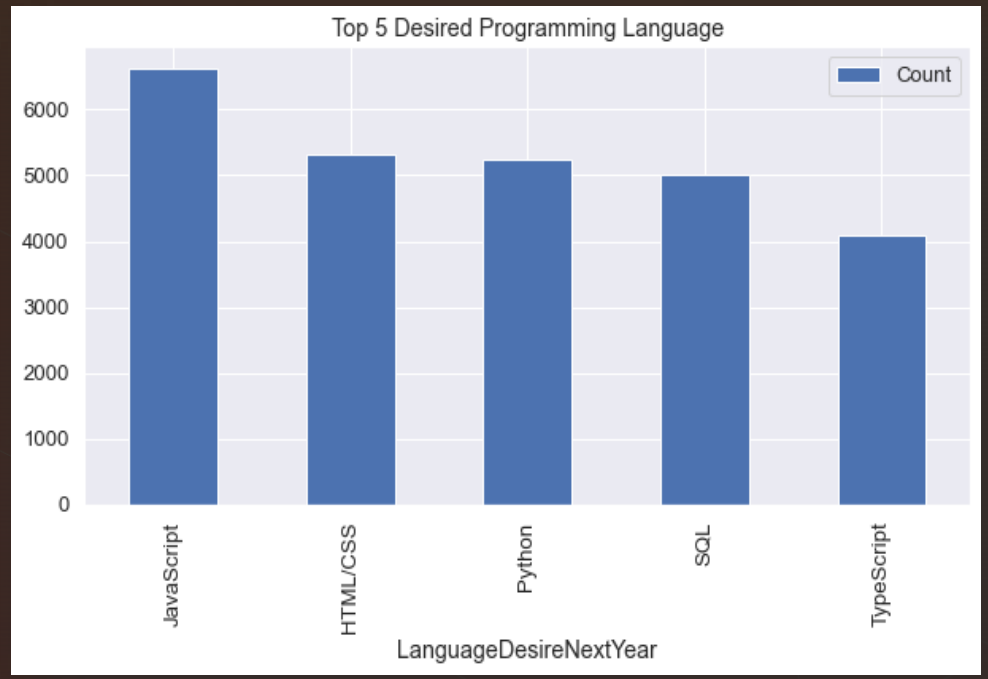
IBM Developer
SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



IBM Developer
SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is top trending language in the world
- Python and TypeScript are becoming more widely utilized
- HTML/CSS and SQL still has great portion in language usage trend

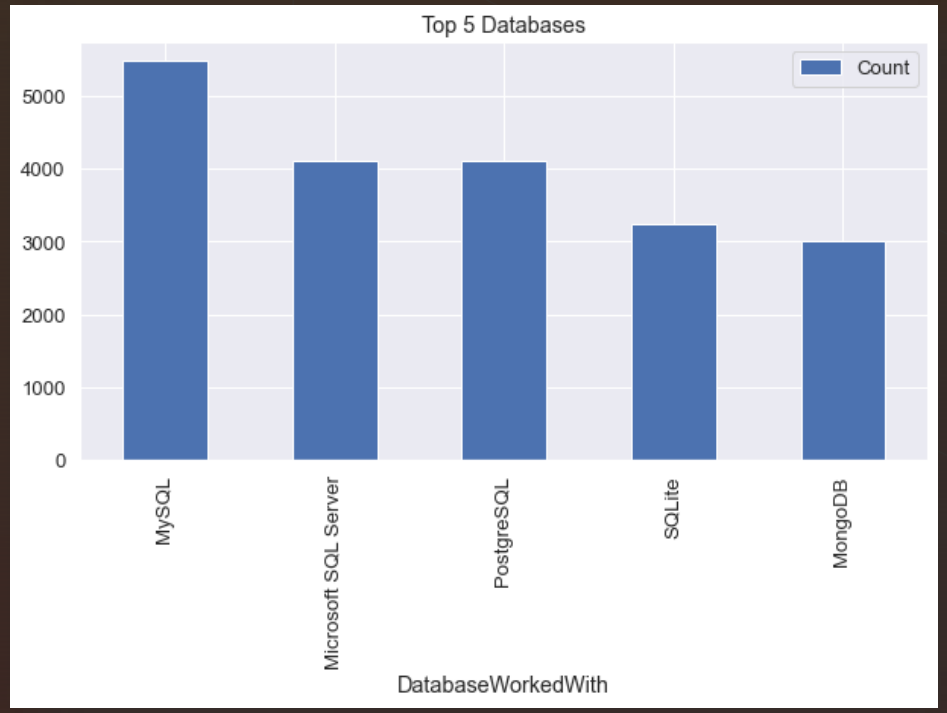
Implications

- Web developments and Web developers are still in high demands
- JavaScript and TypeScript are fundamental to learn for developers
- Python is the new trending language, especially popular in AI fields

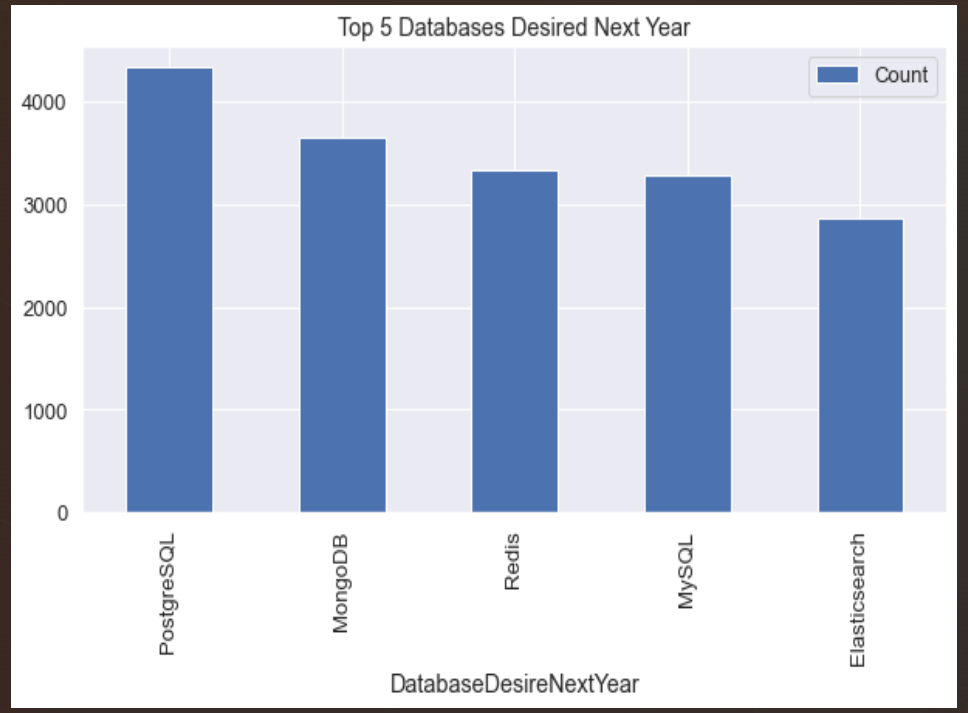
IBM Developer
SKILLS NETWORK

DATABASE TRENDS

Current Year



Next Year



IBM Developer
SKILLS NETWORK

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most prevalent database
- There are still a lot of companies using Microsoft SQL Server
- MongoDB and Redis are the most auspicious NoSQL database

Implications

- Open-source databases like MySQL are still desirable
- Software development and Big Data technology still requires SQL
- NoSQL databases will make an impression for relational databases

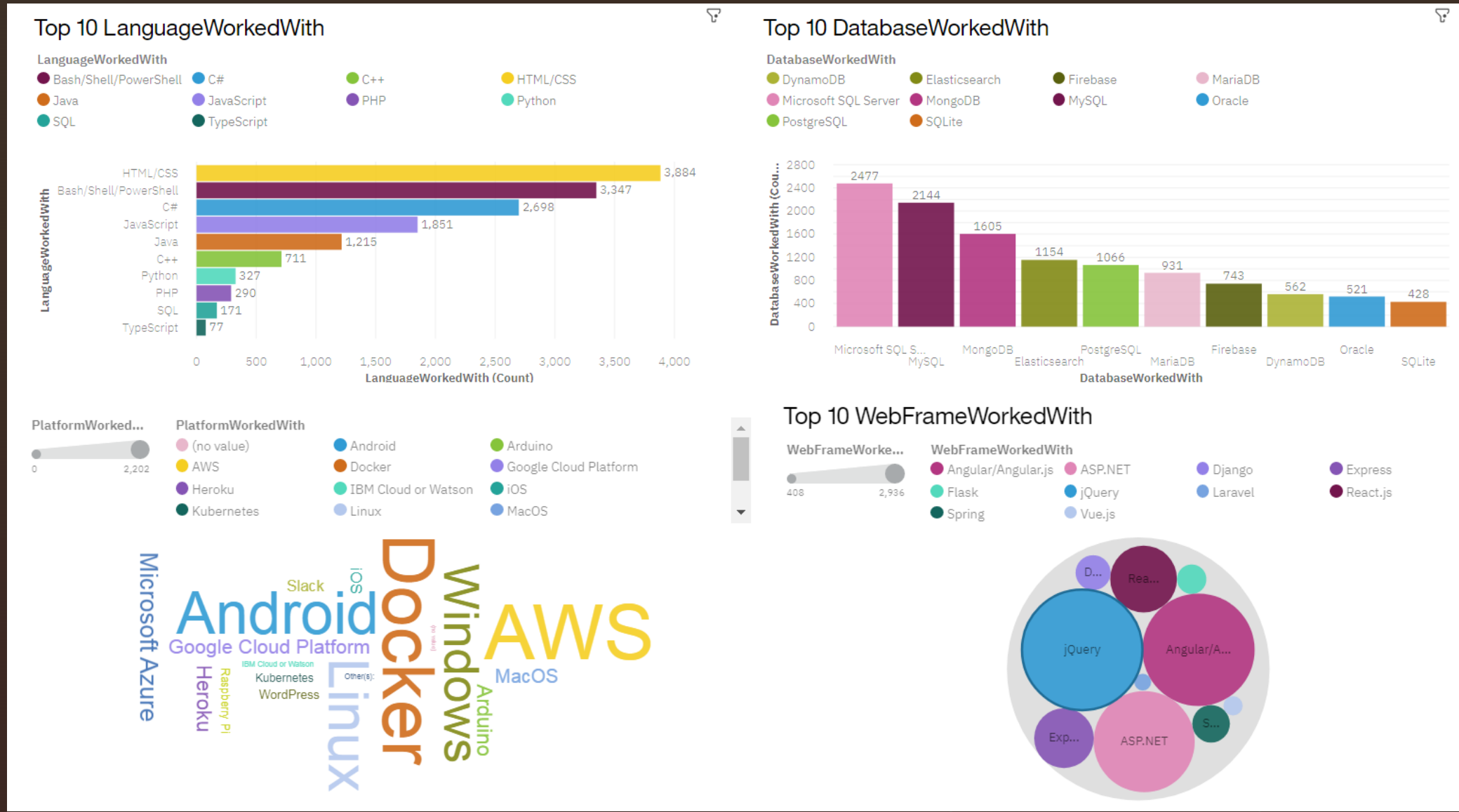
IBM Developer
SKILLS NETWORK

DASHBOARD

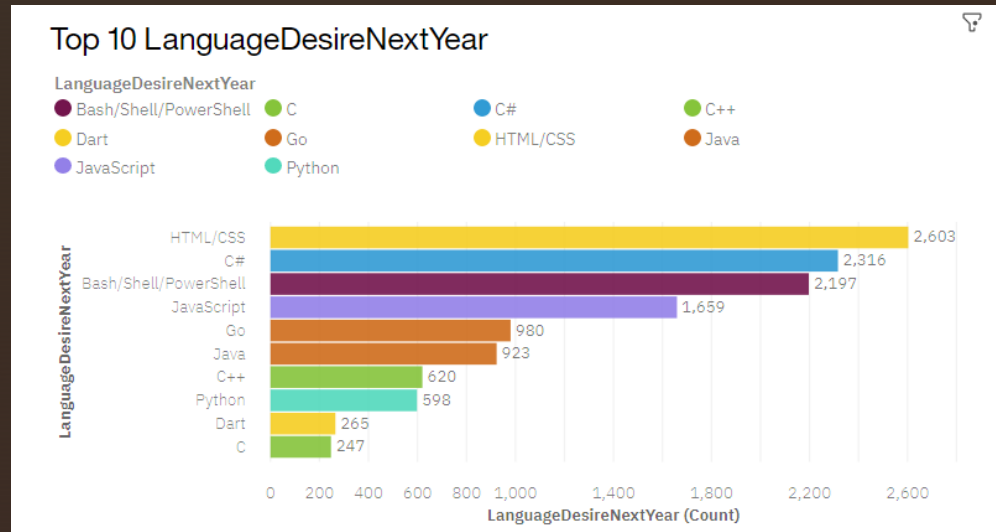
- The permanent link of the read-only view of the Cognos dashboard goes here.
- https://dataplatform.cloud.ibm.com/dashboards/5c47113d-834c-4c4b-9844-e00d9eb29709/view/4114f03665e2689e77e3dce4079d79527c372d5db3bb800a85d07b495c647897a8381b90c826490c8b475130f1ea11599c>

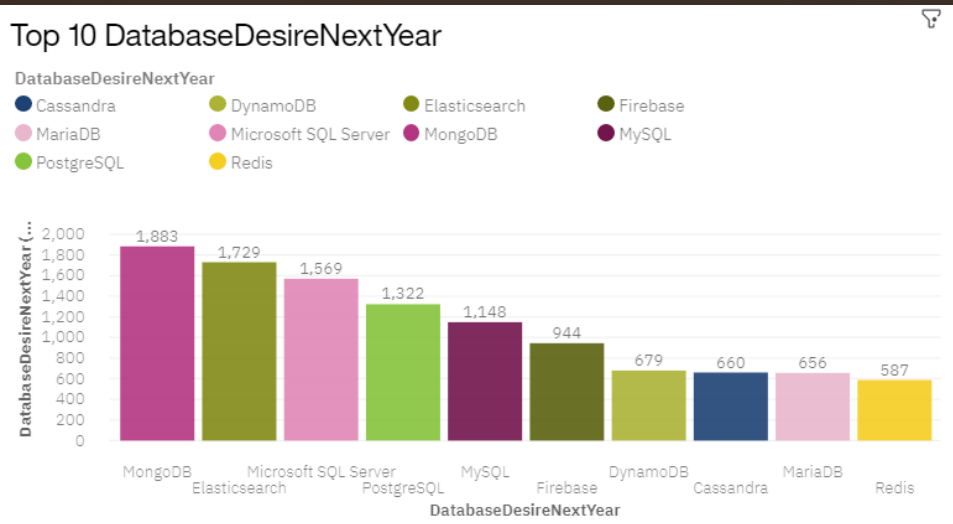
IBM Developer
SKILLS NETWORK

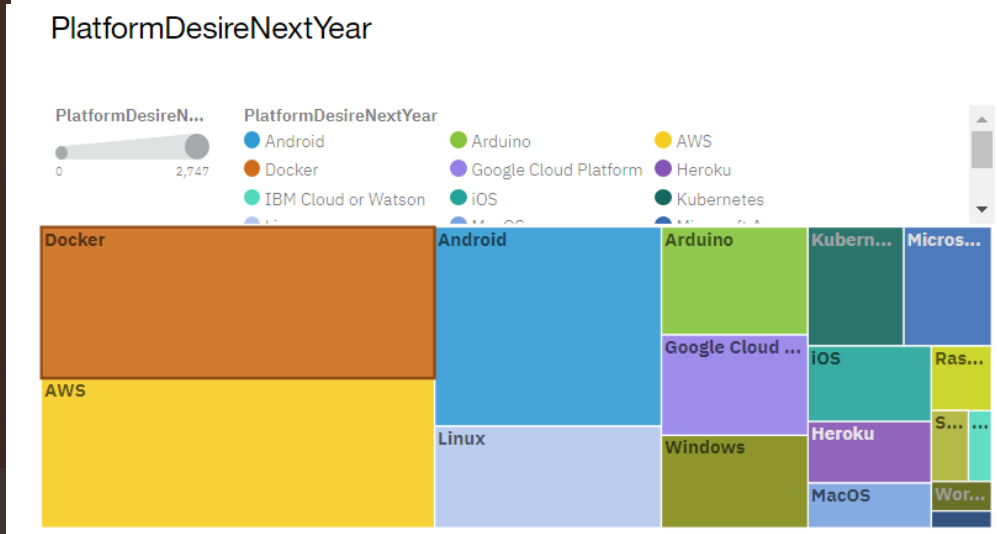
CURRENT TECHNOLOGY USAGE

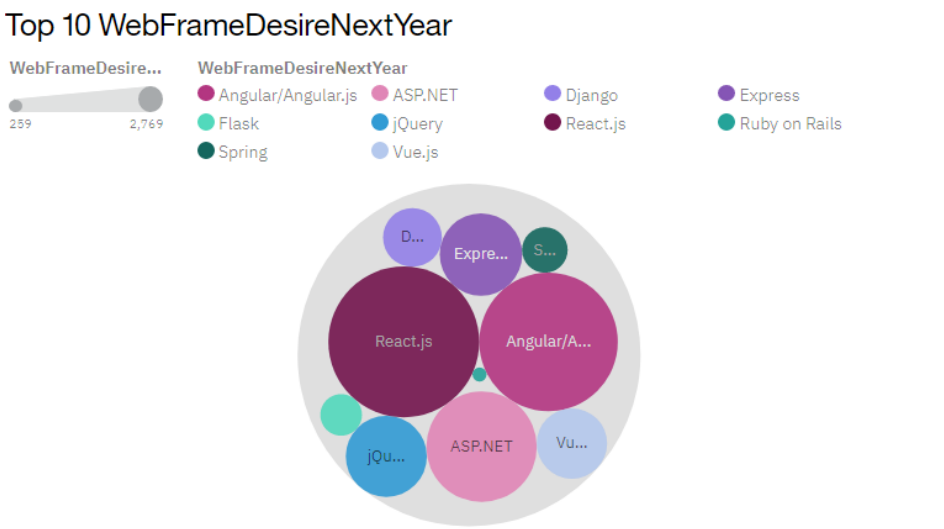


FUTURE TECHNOLOGY TREND

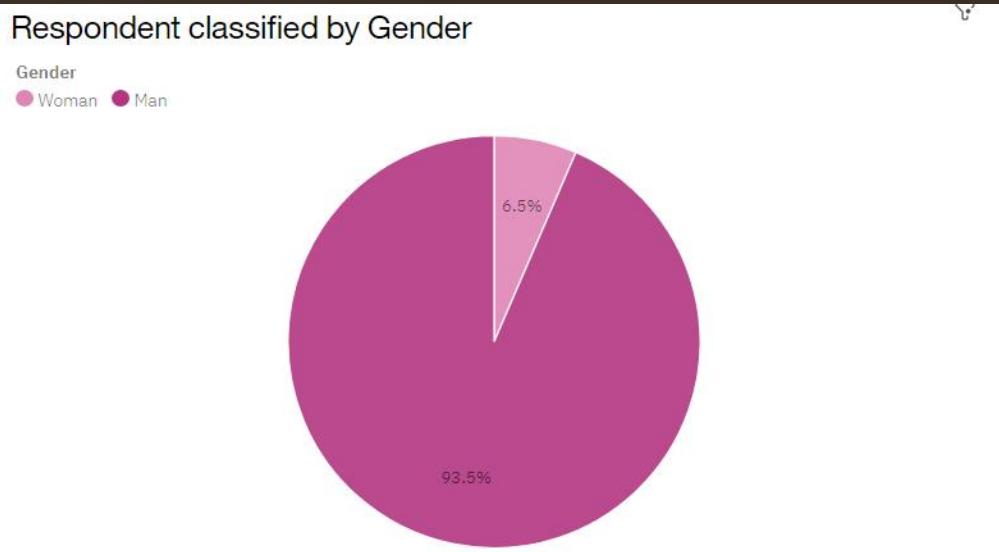


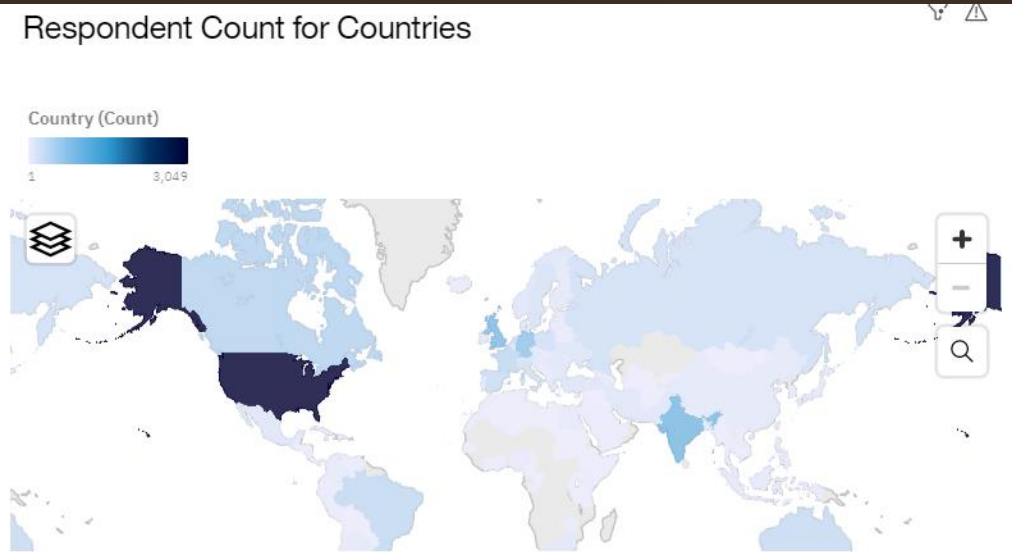


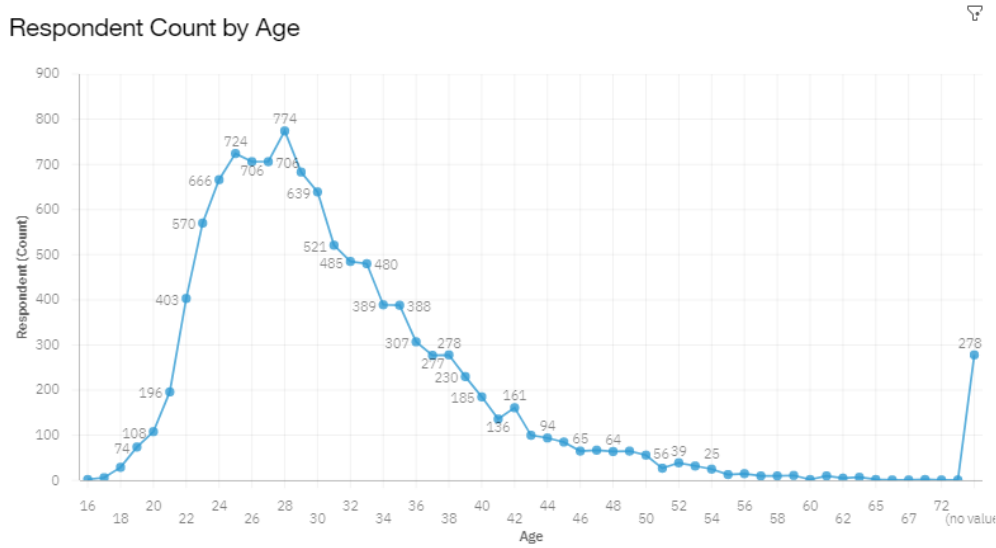


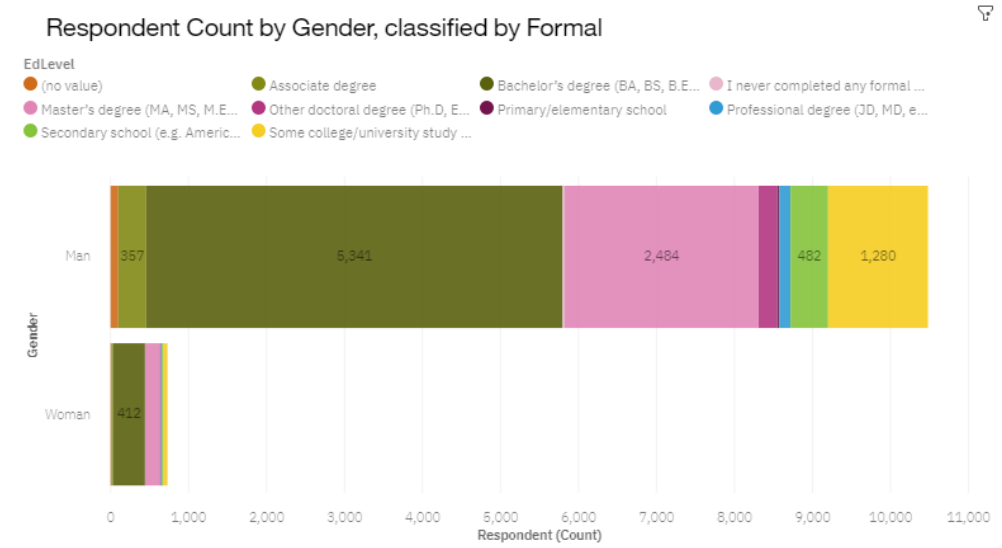


DEMOGRAPHICS









DISCUSSION

- Technology Usage Trend Now and Future
- Gender, Age and Education Discrimination in IT Industry

IBM Developer
SKILLS NETWORK

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends changes every year
- USA is the top technology country
- There are extreme gender and age judgement
- Docker and AWS are the most popular platform

Implications

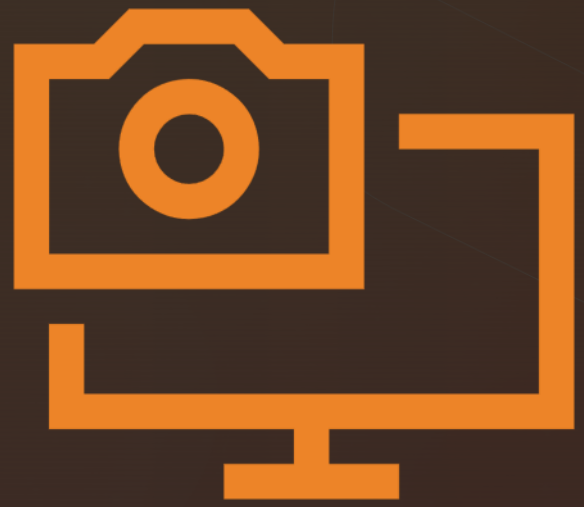
- Programmers should always follow the latest technology trends
- More countries should have the equal chance to be exposed to new technology
- Gender and Age should not be one of the concerns or benefits of Employment

IBM Developer
SKILLS NETWORK

CONCLUSION

- Technology Trends
- Programming Languages, Database, Platform and Web frame Trends
- Demographics Trends
- Gender and Education
- Programming Languages Trends and Salary Trends

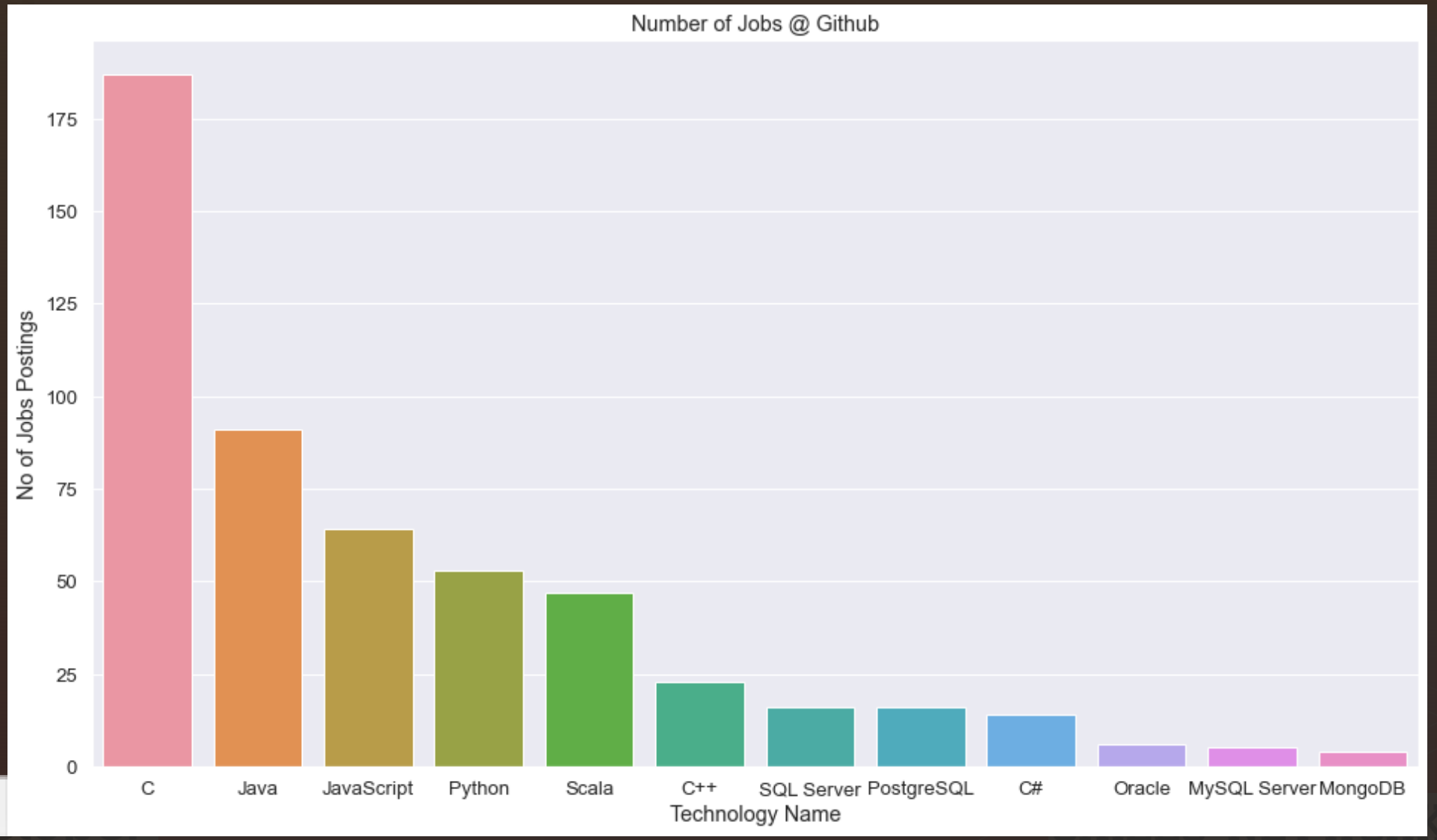
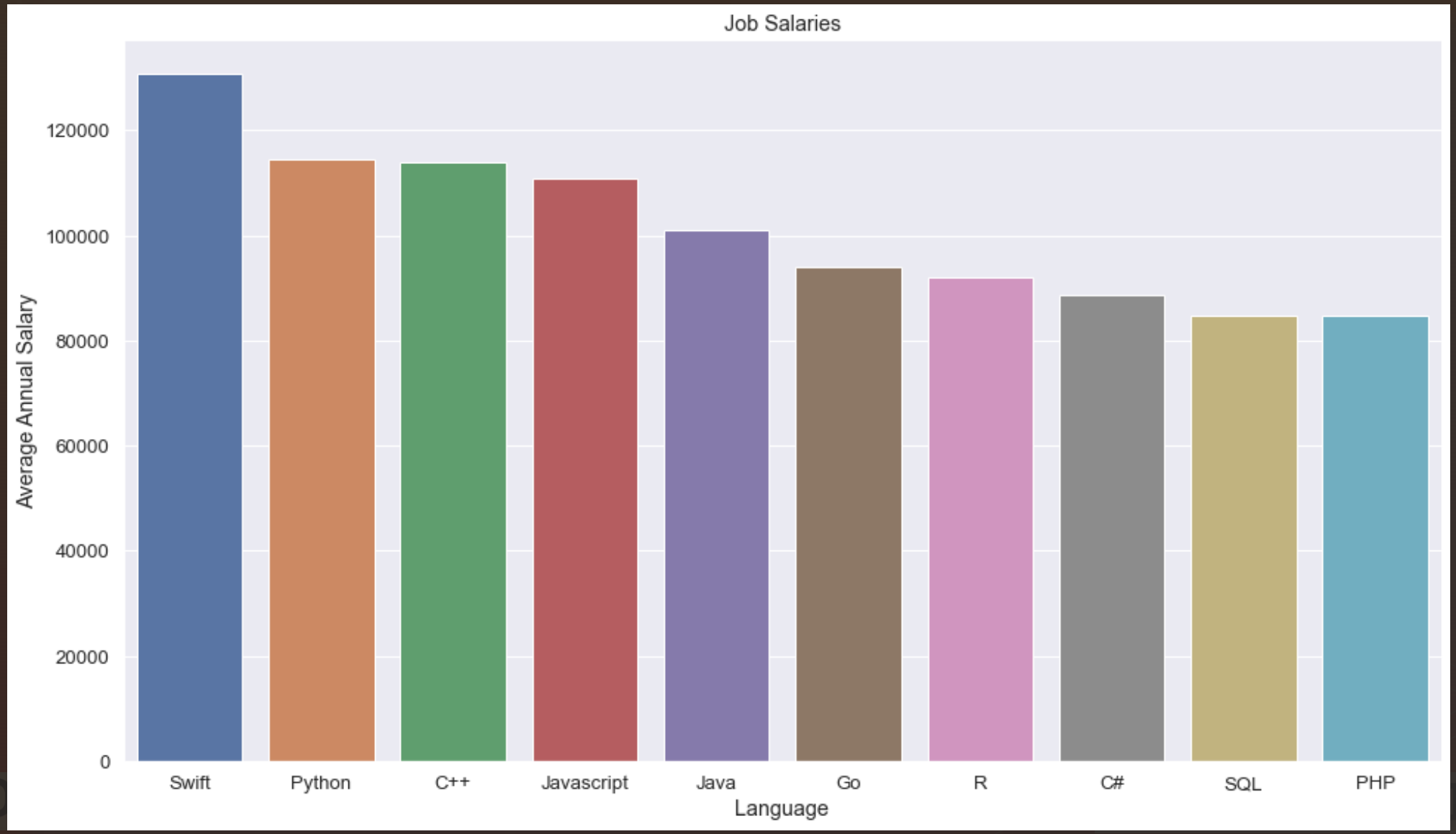
IBM Developer
SKILLS NETWORK



APPENDIX

- IBM Cognos Dashboard Embedded (CDE) is an AI-fueled business intelligence service that supports the entire data analytics cycle, from discovery to operationalization. It provides users with data discovery capabilities to visually explore and interact with their data to identify the key insights for improving data driven decisions. Users can perform data discovery and then quickly assemble that information into interactive, visually appealing dashboards; all without the need of formal training.

JOB POSTINGS



POPULAR LANGUAGES